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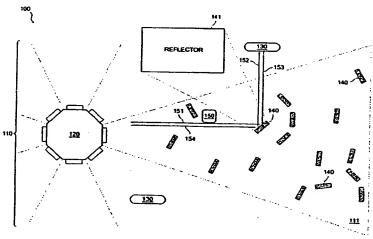
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## Declarations under Rule 4.17:

as to applicant's entitlement to apply for and be granted a patent (Rule 1.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, IN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW). Eurasian patent (AM, AZ, BY, KG, KZ,

[Continued on next page]

(54) Title: ROBUST TOPOLOGY WIRELESS COMMUNICATION USING BROADBAND ACCESS POINTS



(57) Abstract: The invention provides a method and system for robust topology wireless communication using access points. A wireless communication system includes a communication cell having a base station controller and at least one set of customer premises equipment. The customer premises equipment is disposed within a sector of the cell, and communication between the base station controller and the customer premises equipment is controlled by the base station controller so as to prevent interference between multiple sets of customer premises equipment. When customer premises equipment is subject to relatively larger amounts of multipath effect, or interference or noise, one or more access points are disposed within the sector, so as to propagate or route communication between the base station controller and one or more sets of customer premises equipment. The access points may range in complexity from simple reflectors, to repeaters, to routing devices operative within the cell.

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MD. RU. TJ. TM), European patent (AT. BE, CH. CY. DE, DK, ES, FI, FR, GB, GR, IE, IT, LU. MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG)

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According	to International Patent Classification (IPC) or to both national clas	sification and IPC		
B. FIELDS	SEARCHED			
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Documenta	alion searched other than minimum documentation to the extent the	at such documents are included in the fields	searched	
Electronic				
	data base consulted during the international search (name of data	base and, where practical, search terms use	ed)	
EP0-1n	ternal, WPI Data			
C. DOCUM	ENTS CONSIDERED TO BE RELEVANT			
Category *	Citation of document, with indication, where appropriate, of the	relevant passages	Relevant to claim No.	
X	US 5 883 884 A (ATKINSON ROGER 16 March 1999 (1999-03-16)		1,4-8	
	column 2, line 11 -column 3, li column 3, line 60 -column 5, li	ne 16 ne 11		
X	US 4 284 848 A (FROST EDWARD G) 18 August 1981 (1981-08-18)	1,4-9, 12,13		
	column 1, line 44 - line 60 column 3, line 45 -column 4, lin	ne 62	12,13	
Α	US 5 479 400 A (DILWORTH ROBERT P ET AL) 26 December 1995 (1995-12-26)		1-13	
	column 1, line 59 -column 2, lin			
Α	US 5 787 111 A (GILMORE WILLIAM 28 July 1998 (1998-07-28) claim 1	1–13		
	column 1, line 26 -column 2, lin	e 7		
	er documents are tisted in the continuation of box C.	Patent family members are listed	in annex.	
	egories of cited documents:	"T" later document published after the inter	mational 65-re deta	
"A" document defining the general state of the art which is not considered to be of particular relevance		or priority date and not in conflict with to cited to understand the principle or the invention	ha application but	
*E* earlier document but published on or after the international filing date		"X" document of particular relevance; the ct	ha concidered to	
	t which may throw doubts on priority claim(s) or cited to establish the publication date of another or other special reason (as specified)	"Y" document of particular relevance: the cl	rument is taken alone	
"O" document other ma	at referring to an oral disclosure, use, exhibition or earns	document is combined with one or more	entive step when the	
P* document published prior to the international filling date but later than the priority date claimed		ments, such combination being obvious to a person skilled in the art.  *8* document member of the same patent family		
Date of the ac	dual completion of the international search	Date of mailing of the international sear		
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## INTERNATIONAL SEARCH REPORT

Information on patent family members

Inte...ational Application No
PCT/US 01/10300

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 5883884	Α	16-03-1999	NONE		
US 4284848	Α	18-08-1981	NONE		
US 5479400	 А	26-12-1995	AU	685643 B2	22-01-1998
			AU	2700595 A	04-01-1996
			CA	2192201 A1	14-12-1995
			EP	0764372 A1	26-03-1997
	•		WO	9534143 A1	14-12-1995
US 5787111	Α	28-07-1998	AU	3287997 A	05-01-1998
	••		WO	9745964 A1	04-12-1997